

REMARKS

This Response serves as the submission accompanying Applicants' Request for Continued Examination (RCE) filed pursuant to 37 C.F.R. §1.114. By final Office Action mailed May 10, 2005, pending claims 18-26 stand rejected, reconsideration of which is respectfully requested in view of the following remarks. Claims 18-26 are now pending.

Rejections Under 35 U.S.C. §102(e)

Claims 18 and 21 remain rejected under 35 U.S.C. §102(e) as anticipated by Forster et al. (U.S. Patent No. 6,134,950). In particular, the Examiner maintains that Forster discloses a method for determining concentration of a laminar sample stream that comprises all the elements of pending independent claim 18, including, *inter alia*, (1) forming a single combined fluid stream which has a uniform composition across the width of the microfluidic channel, and (2) varying the flow rates of a first fluid, the second fluid, or both the first and second fluids such that the ratio of the flow rates of the first and second fluids is not constant and the concentration of the diffusible constituent varies along the length of the microfluidic channel.

Applicants respectfully disagree with the Examiner's application of Forster and submit that Forster does not disclose either of the two elements specified above. Although Applicants will comment briefly on the first of the two elements, Applicants wish to focus on the second of the two elements in this response.

With respect to the first element noted above, namely, the formation of a single combined fluid stream having a uniform composition across the width of the microfluidic channel, it appears the Examiner is interpreting this limitation as merely requiring that the diffusible constituent is uniformly distributed across the width of the microfluidic channel. Applicants disagree. The language of pending independent claim 18 is not limited in the manner the Examiner asserts. To the contrary, claim 18 broadly recites "a single combined fluid stream which has a uniform composition across the width of the microfluidic channel." In other words, claim 18 requires that the entire composition (not just the concentration of the diffusible constituent) of the fluid stream is uniform.

With respect to the second element above, namely, varying the flow rates of the first fluid, the second fluid, or both the first and second fluids such that the ratio of the flow rates of the first and second fluids is not constant and the concentration of the diffusible constituent varies along the length of the microfluidic channel, the Examiner maintains, without further comment, that Forster discloses varying the flow rates of the two fluids. Applicants strongly disagree with this reading of Forster.

Forster is directed to a method for determining the concentration of analyte particles in a sample stream. The disclosed method relies upon the generation of calibration models (or reference data) relating (a) positions of points of known concentration of diffusible particles in an indicator stream (or first fluid stream) in laminar flow with a sample stream (or second fluid stream) to (b) initial concentrations of the diffusible particles in the sample stream (*see, e.g.*, column 2, lines 26-33 of Forster). Although Forster discloses that the first and second fluid streams may be flowing at different rates, Forster does not disclose that the first and second fluid streams may be flowing at variable rates. In fact, quite to the contrary, the mathematical models relied upon by Forster for determining the analyte concentration require that the flow rates be constant (*see, e.g.*, column 2, lines 34-46; column 3, lines 48-60; column 3, line 61, through column 4, line 5; column 13, lines 55-67 of Forster). In other words, the first and second fluids may have different flow rates, but such different flow rates must be constant (*i.e.*, the ratio of the flow rates of the first and second fluids must be constant). To the contrary, the method of pending independent claim 18 requires that (i) at least one of the flow rates is varied (*i.e.*, not constant) and (ii) the ratio of the flow rates of the first and second fluids is not constant.

In view of the foregoing, Applicants submit that Forster does not disclose every element of pending independent claim 18. Furthermore, Applicants submit that there is no teaching or suggestion in Forster to modify the method disclosed therein to achieve the claimed method of the present invention. As for dependent claim 21, since this claim is dependent from, and thus contains all the limitations of claim 18, it is patentable for the same reasons. Accordingly, Applicants request that this ground of rejection be withdrawn.

Rejections Under 35 U.S.C. §103(a)

Claims 19-20 and 22-26 remain rejected under 35 U.S.C. §103(a) as being unpatentable over Forster in view of Weigl et al. (U.S. Patent No. 6,171,865) for the reasons set forth on page 3-5 of the Office Action. As noted on page 3 of the Office Action, these rejections are based upon the Examiner's conclusion that Forster discloses the method of pending independent claim 18. However, as set forth above, Applicants disagree with the Examiner's application of Forster to claim 18. Accordingly, Applicants respectfully request that these rejections also be withdrawn.

In view of the above remarks, allowance of claims 18-26 is respectfully requested. A good faith effort has been made to place this application in condition for allowance. However, should any further issue require attention prior to allowance, the Examiner is requested to contact the undersigned at (206) 622-4900 to resolve the same. Furthermore, the Commissioner is authorized to charge any additional fees due by way of this Response, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,

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